



*Operation and Maintenance of the
Fore River Pelletizing Plant
Update*

December 14, 2022



MWRA Pellet Plant Located in Quincy

- Located in Fore River Shipyard
- Designed, Constructed and Owned by MWRA
 - Total cost - \$133 million
- FY23 Budget - \$16,991,305 (103 dtpd)
- Contract Operation and Maintenance since startup
 - Contract 1: 1991 – 2001 Competitive Bid – NEFCo
 - Contract 2: 2001 – 2015 Competitive Bid – NEFCo
 - Amendment 1 Negotiated 5-Year Extension (through end 2020)
 - Amendment 2 Loss of remote silos
 - Amendment 3 2 yr extension + 1 optional year





Regulatory Uncertainty On-going Impacting O&M Contract

State and Federal Drinking Water Standards:

- Massachusetts 6 PFAS compounds 20 ppt
- EPA Updated Health Advisory, June 2022
 - PFOA 4 ppq, PFOS 20 ppq, Gen X 10 ppt, PFBS 2 ppb
- EPA maximum contamination limits for PFOA and PFOS expected soon

Maine:

- 2019 required biosolids PFAS testing
- In 2022, banned all land applications of biosolids

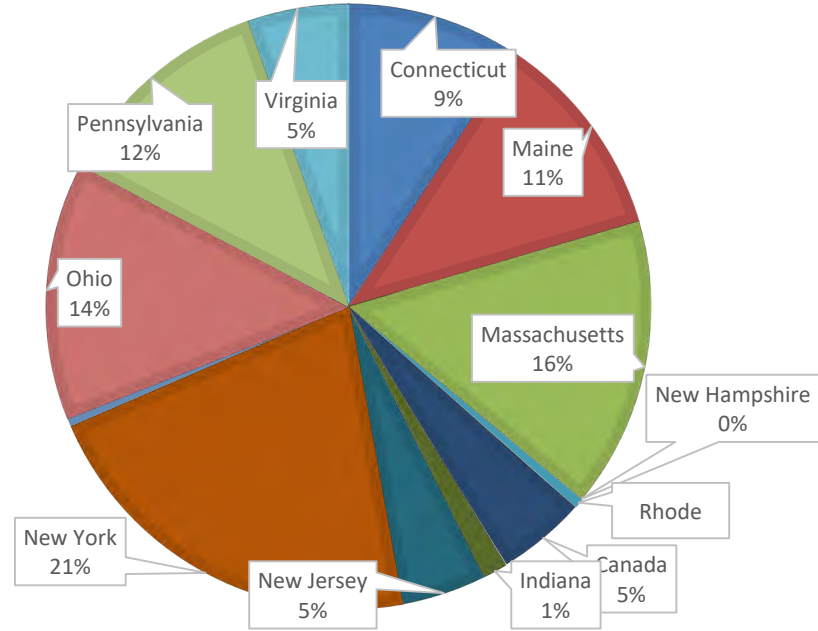
Connecticut:

- 2022, recommend farmers obtain PFAS test results
- If > 1.4 ppb recommend do not apply to fields

Massachusetts: 2020, new permits include PFAS testing

- MWRA permit issued November 2020
- Recent permit renewals paused (reported)

MWRA PELLET DISTRIBUTION 2021



* Between 2016 – 2021, 37% to 69% of biosolids land applied in New England



Successor Operating Contract

Staff recommend:

- Continue plans to issue RFQ/P for next operating contract
- Goal: Beneficial Use
- Duration: 10 years
- Separate line items
 - Marketing
 - Disposal
- Include landfill contingency

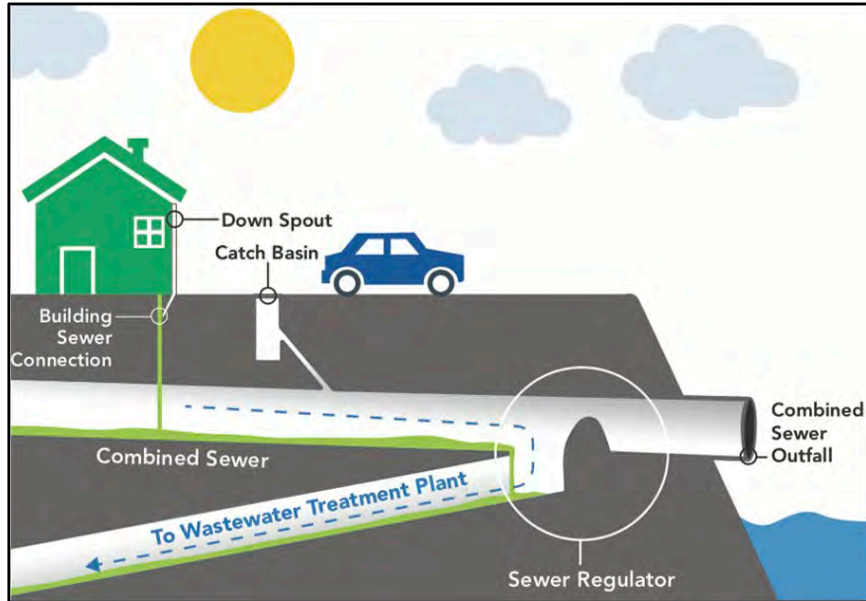
Public Meeting No. 2: CSO Control Plans Update Typical Year Development, Goals & Priorities

December 15th, 2022

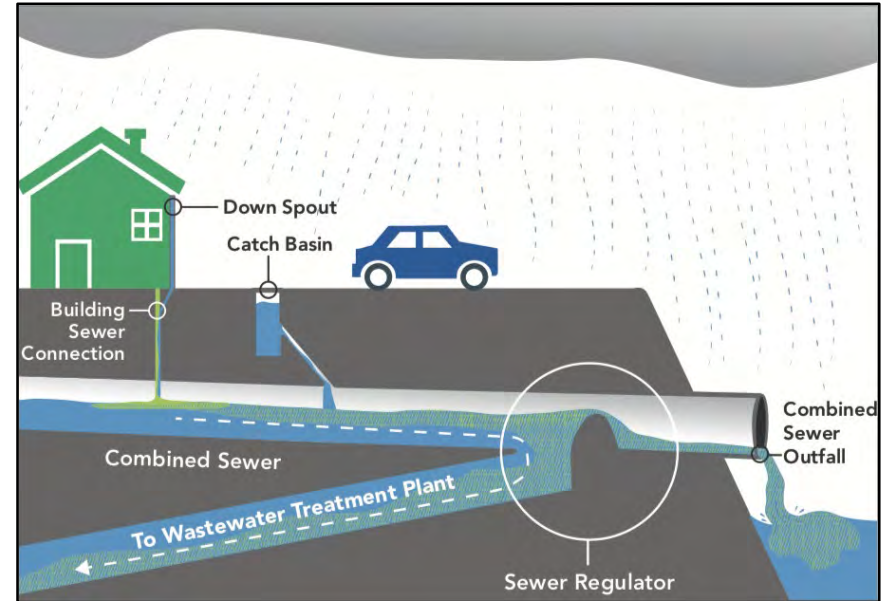


What is a Combined Sewer System?

One network of pipes for both sanitary and stormwater flow.



All sanitary flow and stormwater from most storms is moved to the Deer Island Wastewater Treatment Facility.



Occasionally, **excess flow during heavy rain** can cause a combined sewer overflow (CSO) into rivers.

Why are Combined Sewer Overflows Permitted?

When heavy rain overwhelms the combined system, discharges to neighborhoods and buildings occur.



Sanitary Sewer Overflows (SSOs) release sewage in neighborhoods and contribute to local flooding.



System backs up and discharges to basements and garden-level apartments.

CSOs provide controlled relief at known locations to better manage the hazards of a combined system.

What is a CSO Control Plan?



The Planning Process

Assess Conditions

1. Present Day
2. Future
3. **Develop a Typical Year**

Develop Plans

Develop Combined Sewer System Control Plans including alternatives that use information from assessment and engagement

Submit Final Plans**

Initial Schedule**:

- Draft Plan: June 2023
- Final Plan: December 2023

***We requested a schedule extension*

Focus on Public Involvement

- Up to 8 Public Meetings at major milestones
- MA Environmental Policy Act (MEPA) Review
- Flyers, Fact Sheets, and Public Events
- Stakeholder Interviews

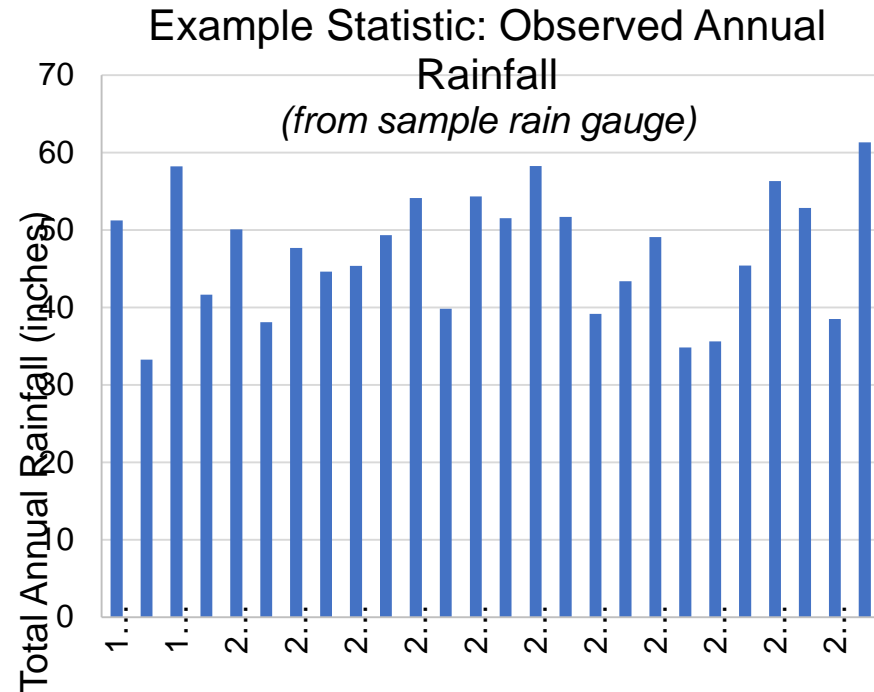
- **Goals** – specific objectives to be achieved by the CSO Control Plan recommendations.
What is the purpose of this planning process?
 - Develop a **new Typical Year** to reflect future climate conditions
 - Develop, assess, and select **alternatives for decreasing / eliminating CSOs**
 - Identify **alternatives to improve water quality** in the Charles River, Mystic River, and Alewife Brook
 - **Engage with the community** throughout the planning process
 - Consider and address impacts of CSOs on **Environmental Justice** communities

What is a “Typical Year”?

A **Typical Year** is a full year of rainfall data that best represents rainfall conditions over a period of time.

Required by EPA’s CSO Control Policy requirements:

- Rainfall fluctuates from year to year, and we need to find a representative "average" year for planning, using statistics and the **best available rainfall data**.



How is the Typical Year Used?

Used throughout the CSO control planning process

- During Development:
To identify and test alternatives.
- During Implementation:
Sets a **benchmark** to measure and assess progress.

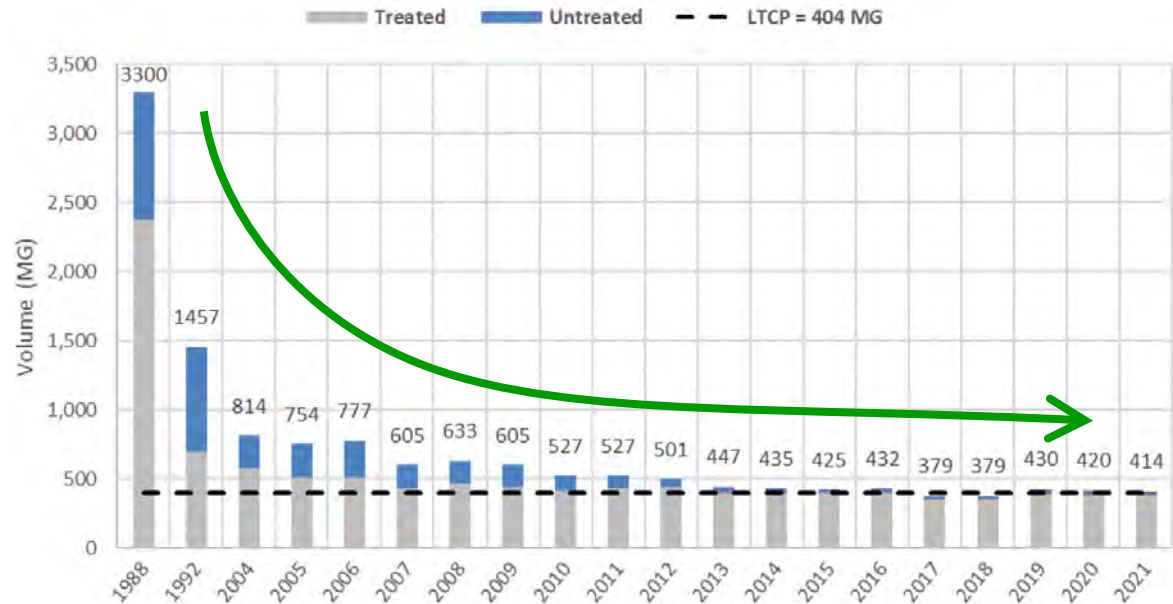
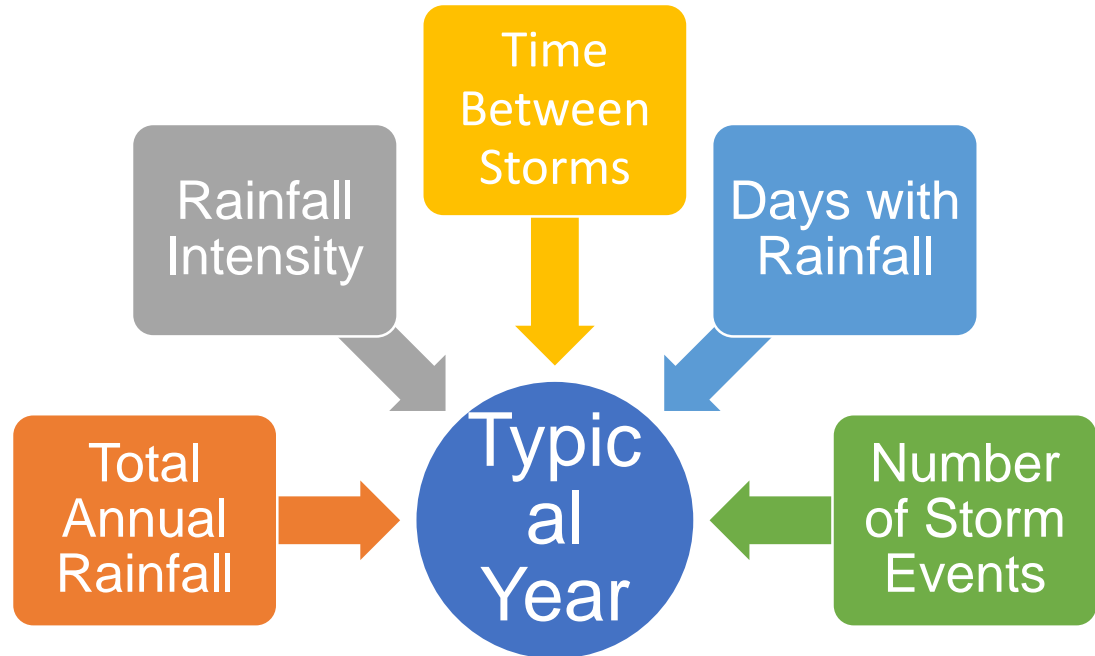


Figure 1-1. Estimated Treated, Untreated and Total CSO Volume in the Typical Year, 1988-2021.

How is the Typical Year Developed?

- **Data-driven** process analyzing rainfall patterns to identify the best match year.
- Uses **real data to assess alternatives** and measure performance.



❖ For more information, refer to the Typical Year Technical slides at the following website: <http://www.cambridgema.gov/csoPlanning>.

Developing a Future Typical Year

- This is a **first of its kind** approach,
- Involves **collaboration with leading climate scientists**, and
- Is **consistent with the Massachusetts Climate Resilience Design Standards**.

❖ *For more information, refer to the Typical Year Technical slides at the following website:*
<http://www.cambridgema.gov/csoPlanning>.

Identified the Future Period (2040-2069)

Assessed two Greenhouse Gas (GHG) Emissions Scenarios

Analyzed multiple Global Climate Models (GCMs)

Compared Results to Observed Rainfall Data

Identified 2050 Future Typical Year for use in Updated CSO Control Plans (in-progress)

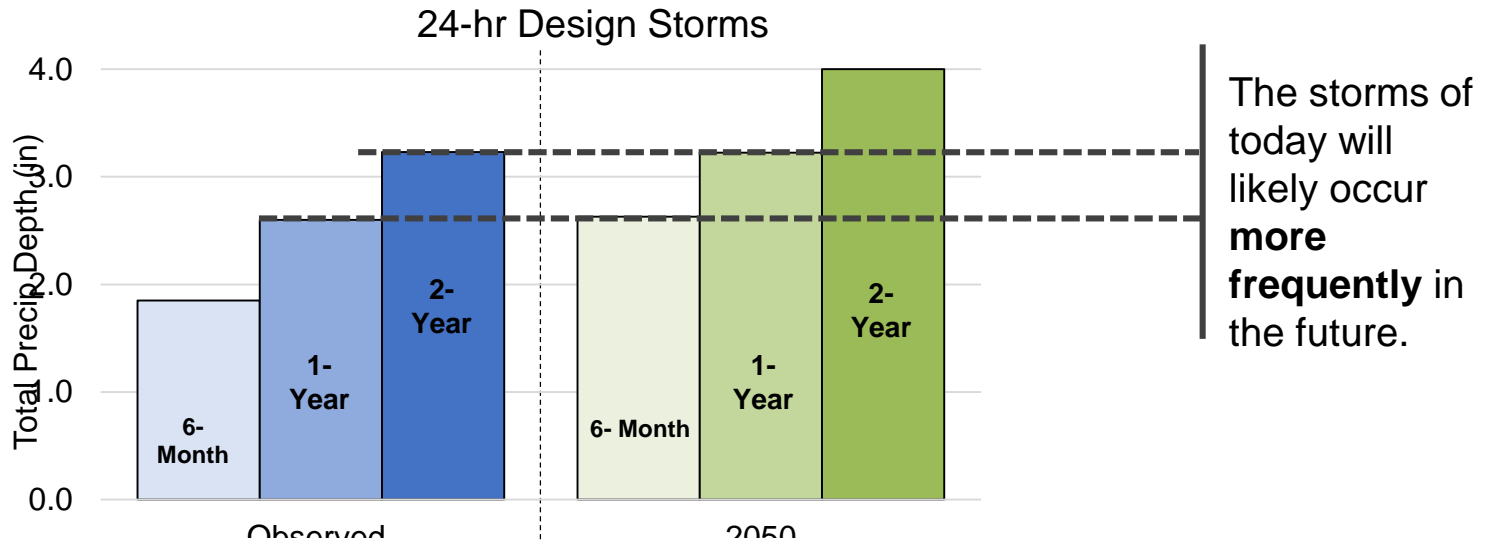
Preliminary Findings

Observed (1996-2021)

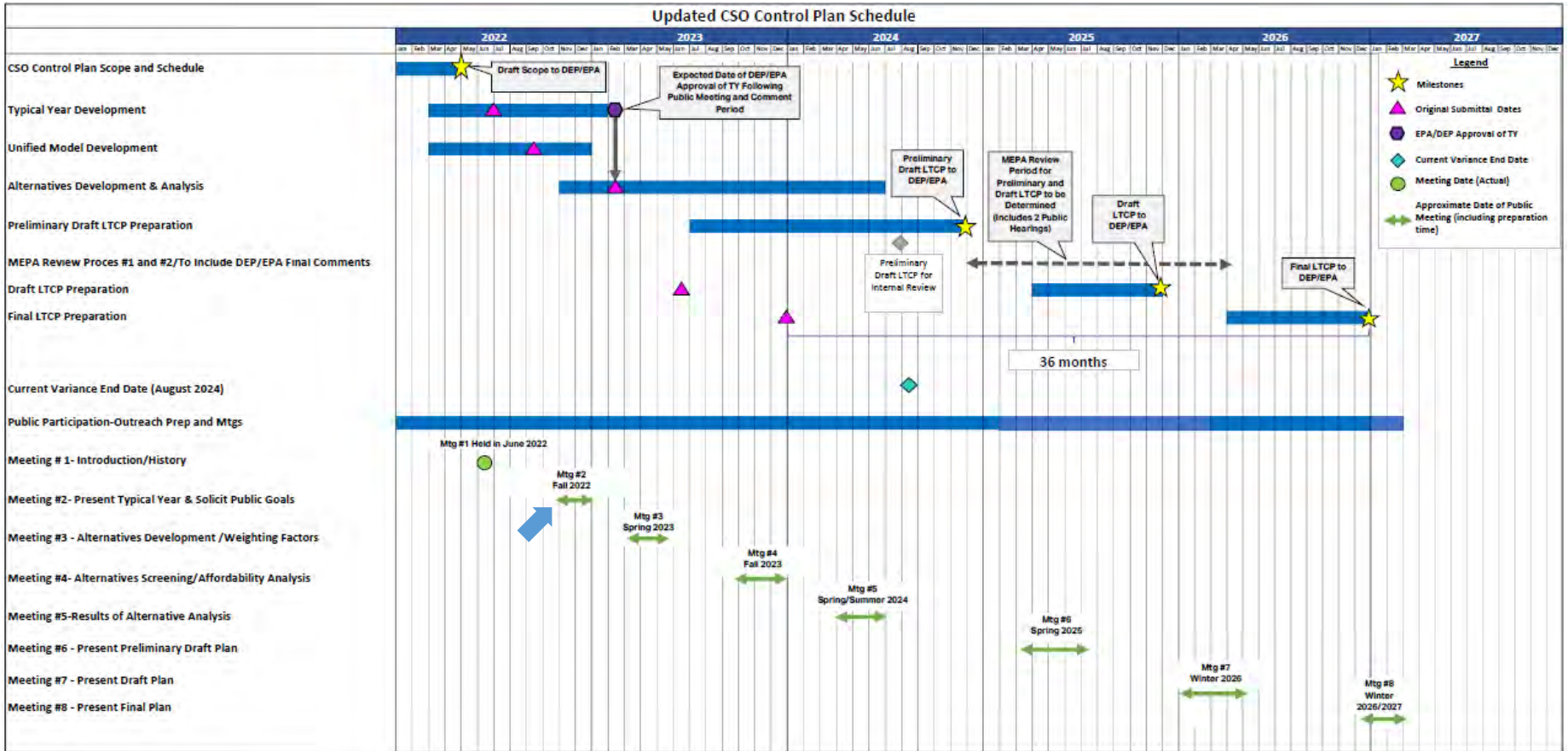
Average annual rainfall:
47.1"

Future (2040-2069), RCP8.5

Average annual rainfall: ← From a Sample Gauge
49.5"



Schedule Extension Request



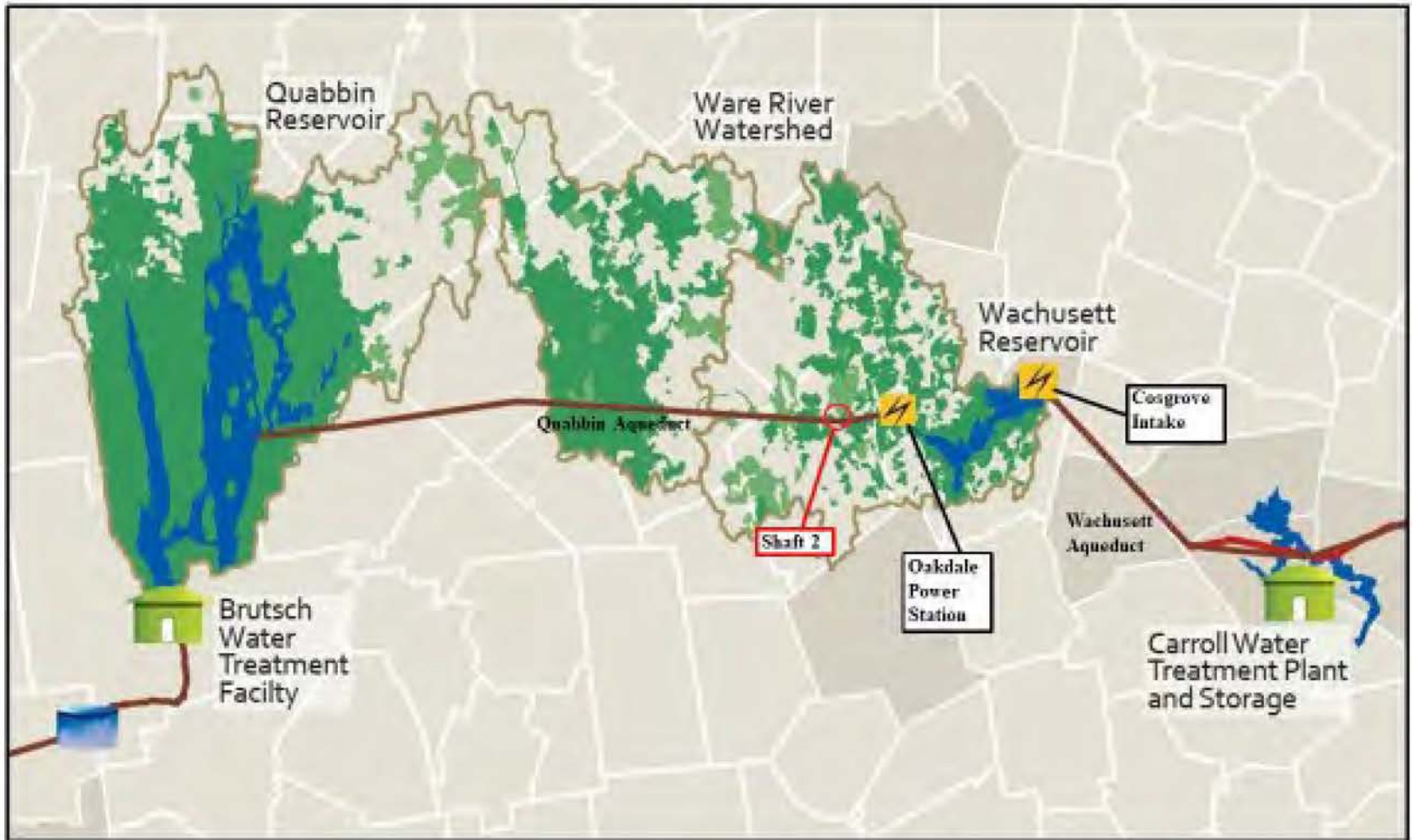


*Quabbin Aqueduct Shaft 2 Repairs
Contract 7198*

December 14, 2022



Quabbin Aqueduct Shaft 2 Located in Holden



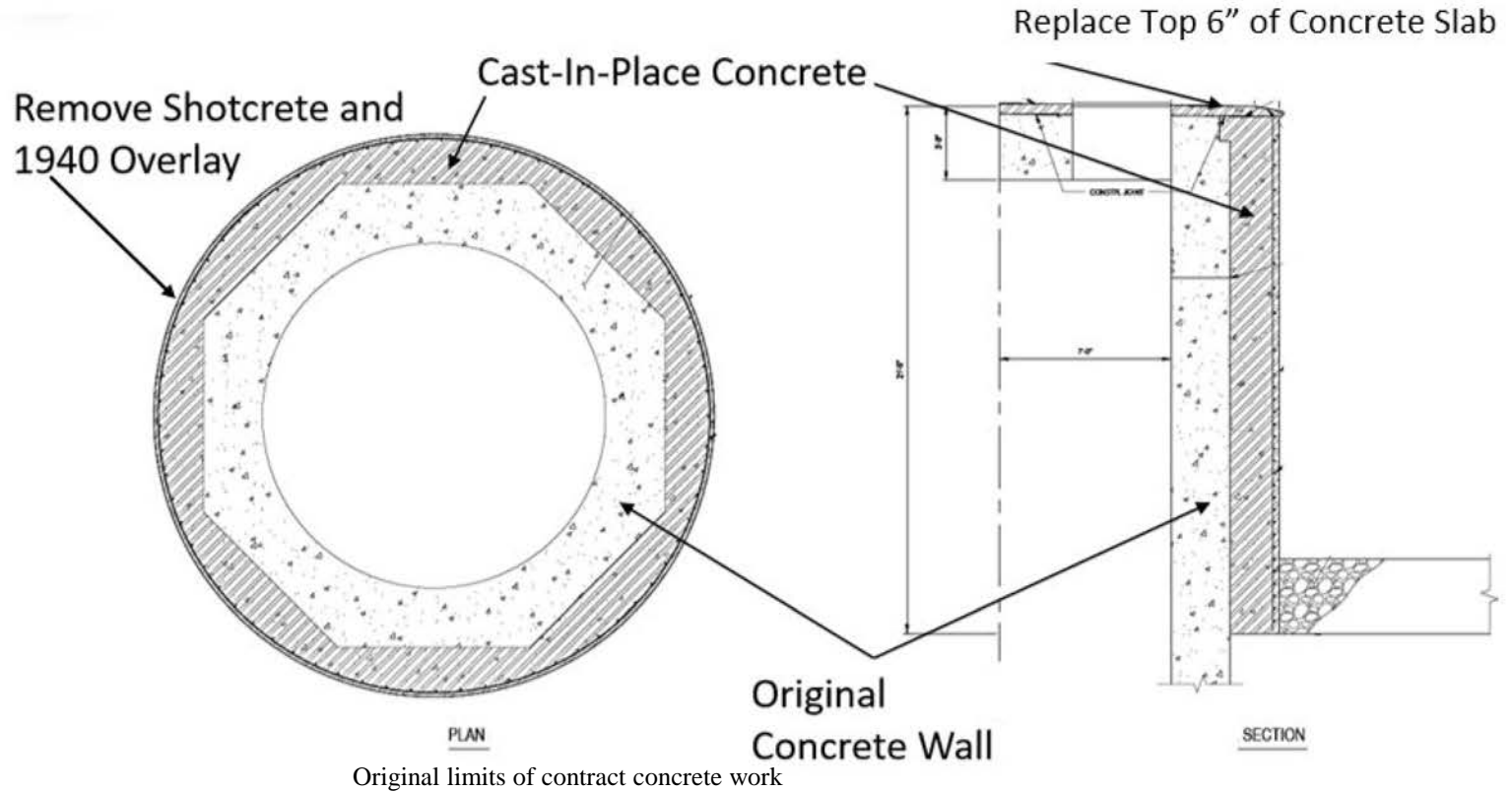


Quabbin Aqueduct Shaft 2 - Preconstruction Condition





SHAFT 2 - Initial Scope of Repair





Removal of Unsound Concrete Panels and Embedded Wood





Concrete Infills to Replace Deep Areas of Unsound Concrete





Quabbin Aqueduct Shaft 2 – Post Construction Condition

